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ABSTRACT

This manual is a resource guide on energy conservation for teachers of language arts from grades seven to twelve. It contains a multitude of student activities which are classified into 7 thematically oriented units. The aim of all the activities is to increase the student's awareness and knowledge of energy conservation. The four basic goals of the project are to increase the student's understanding that: (1) Natural laws limit energy availability; (2) Energy consumption affects both man and his environment; (3) Human values and attitudes affect energy usage; and (4) Energy conservation is necessary to maintain our lifestyle. (SB)

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IDAHO
ENERGY CONSERVATION RESOURCE GUIDE
for
LANGUAGE ARTS GRADES 7-12

JOHN V. EVANS
Governor

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"The Energy Crisis can be the most effective teaching aid of the decade."

S. David Freeman
Commissioner
Tennessee Valley Authority

INTRODUCTION

In recent years Idahoans have become increasingly concerned about the energy situation and aware of the importance of energy in our lives. Experts now tell us that unless some immediate steps are taken we will not be able to provide for our future energy needs as a nation. New research and technology can alleviate part of the problem but, more immediately, we must reduce energy use. An effective energy conservation program can result in substantial energy savings, extend the life of present energy supplies, and provide us the much needed time to explore alternatives.

Traditionally, the educational system of our country has been called on to explore and resolve societal problems. The energy situation is a unique opportunity for educators since it reflects a complex set of problems that require changes in values, attitudes and lifestyles. The instructional program in a school can examine these problems and can assist in student awareness of the alternatives and consequences of energy decision.

This resource guide has been prepared to assist teachers in incorporating energy concerns within the school curriculum. It is intended to provide a basic framework of objectives for different subject areas and to provide examples of activities for teaching towards the stated objectives. Resources are listed to aid the teacher in developing additional activities. It is anticipated that these materials will be a starting point and that teachers will go farther in this important area of instruction.

LANGUAGE ARTS

This resource guide contains seven thematically oriented language arts units organized around energy education in a task card format. Each unit addresses a number of energy education goals as shown in the following matrix:

UNIT	LAWS	USE	VALUES	CONSERVATION
Idaho Yesterday	X	X	X	X
Idaho Today		X	X	X
Idaho Tomorrow		X	X	X
A Future to Avoid			X	X
Home and School		X	X	X
Inventions	X	X	X	X
Transpor-Mania	X	X	X	X
Word Power			X	X

Each of the activities contained within the units incorporates one or more of the basic language arts skills. For information about the language arts objectives fulfilled by a particular task card consult the teacher's one page guide at the front of each unit. The language arts skills used in this packet are listed below:

reading	oral communication	creative thinking
composition	listening	value judgements
spelling	dictionary skills	sentence study
word study	grammer	compiling; listing
research	writing	library skills
vocabulary	outlining	poetry/fiction/drama

IDAHO ENERGY CONSERVATION RESOURCE GUIDE

PROJECT GOALS

This project has four goals. They are easily recalled by the following acronymn:

LUV Energy Conservation

LUV represents the key words in the first three goals.

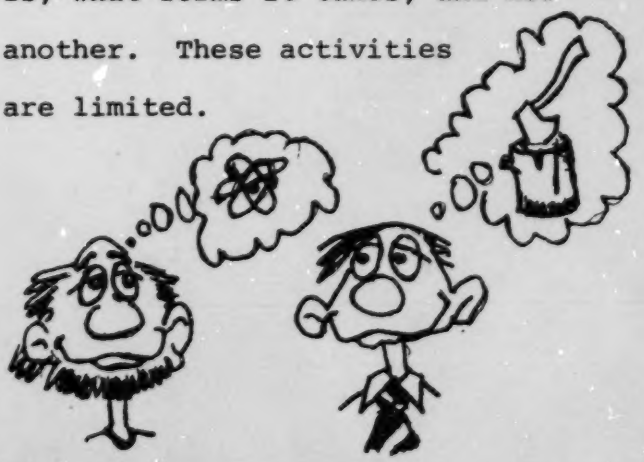
These key words are:

1. Laws
2. Use
3. Values

The fourth goal is Energy Conservation.

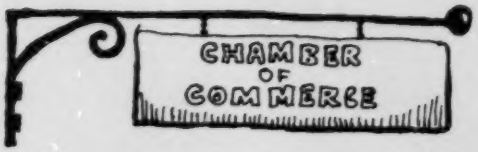
Goal 1. Natural LAWS determine the availability of energy.

There are conditions and limits to our use of energy. Activities under this goal describe what energy is, what forms it takes, and how it can be converted from one form to another. These activities emphasize that all earth's resources are limited.



Goal 2. USE of energy affects both people and their environment.

Everyone depends upon energy. Activities under this goal examine how energy use affects both our natural environment and our economic, political and cultural systems. These activities emphasize that energy use influences the lifestyle for both present and future generations. Lifestyle, in turn is influenced by our choice of technology.



Goal 3. Our VALUES determine how we use energy.

Energy problems can not be solved by technology alone. Activities under this goal encourage us to analyze our personal energy habits and to accept the responsibility for our actions. They emphasize that changes in energy use and changes in values and attitudes are inter-related. These activities offer us some tools for gathering information, for making decisions, and for providing input to our economic, political and cultural systems.

Goal 4. ENERGY CONSERVATION is necessary to maintain our lifestyle.

There are both long-run and short-run solutions to energy problems. Activities under this goal encourage the development of both new energy sources and of more efficient ways to use energy. They emphasize that energy conservation is an effective and essential tool.

HOW TO USE TASK CARDS

Using the Cards in Units

These cards are provided in units which may be used as a complete self-contained instructional unit lasting from several days to several weeks and involving the participation of your whole class.

If you choose to use the unit as a whole, you may wish to employ a contract evaluation system. In such a system, you assign a certain number of points for each activity. These points are usually based upon the amount of time an average secondary student would spend on the activity (for your convenience each activity has been assigned an estimate of time needed for completion). The student receives these points upon successful completion of the activity or project. The grade the student receives for the unit thus depends upon the total number of points he/she has earned. At the beginning of the unit, you would inform the student(s) of the number of points needed to earn an A, B, or C grade.

Integrating the Units

You may choose to use more than one of these units or to intermingle the tasks cards for one them.

Using Individual Cards

You may choose to make these cards available as individual separate extra credit activities within your regular classroom instruction. They are designed to be used separately as well as within a total unit. You could use a few of these cards in connection with another unit or instructional plan. Many of the task cards provide creative or challenging opportunities for students to respond to poetry, short fiction, or novels and you may choose to use those cards in conjunction with units on poetry, short stories or the novel.

Making the Cards

Cut the task cards apart. You may choose to laminate the task cards. The teacher information can be kept for future reference.

Reading Difficulty

Many task cards include a reading list of alternate selections. The selections in each list range from relatively easy to quite difficult material. Thus, each student in an English classroom should be able to select a reading choice at his instructional reading level with the teacher's assistance.

Appropriateness of Reading Selections

Not every reading selection in this guide is appropriate for every age group or every community in Idaho. The teacher should be familiar with the content and language of each selection and should exercise responsible professional judgement in making reading selections available to students.

Art Cards (Last Section)

Throughout this guide, many task cards ask the student to prepare a graph, a collage, a map, etc. to supplement written or oral presentations. To simplify the task cards, instructions about making visuals have been put on separate art cards. The specific art card which the student may need is noted by number on each task card.

Teacher Note: Use this as a pre and post- survey to see if the study of this material has affected change in student attitudes.

ENERGY ATTITUDE SURVEY

Objective: To help determine student attitudes toward energy.

1. Do you believe there is an energy shortage? ___yes ___no ___don't know

2. Do you believe you have been given a realistic picture of the energy situation facing the United States? ___yes ___no ___don't know

3. Do you believe most Americans are energy "wasters"? ___yes ___no ___don't know

4. Do you believe most Americans are energy "conservers"? ___yes ___no ___don't know

5. Do you believe Americans are "spoiled", self indulgent and reluctant to take responsibility for the future? ___yes ___no ___don't know

6. Do you believe it is the responsibility of every U.S. citizen to conserve energy voluntarily? ___yes ___no ___don't know

7. Do you believe Americans will conserve energy only when government controls are imposed? ___yes ___no ___don't know

8. Would you be willing to reduce your standard of living to conserve energy? ___yes ___no ___don't know

9. Do you believe you as an individual can make an impact on energy consumption? ___yes ___no ___don't know

10. Would you conserve energy to save money? ___yes ___no ___don't know

11. Do you think the money saved is worth the inconvenience of conserving energy? ___yes ___no ___don't know

12. Do you think the energy saved is worth the inconvenience of conserving energy? ___yes ___no ___don't know

13. Do you feel technology will "bail us out" of the energy shortage? ___yes ___no ___don't know

14. Do you feel you have any input or participation in the energy usage decisions made by your family? ___yes ___no ___don't know

15. Are you going to <u>do</u> something to save energy? ___yes ___no ___don't know

Take a tally for the Energy Attitude Survey and find the percentages for each response.

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IDAHO YESTERDAY

Goals and Objectives:

Students will explore Idaho's past through reading, oral interviews and possibly take field trips to local historical museums or watch films. Either the teacher or students may want to include a classroom collection of Idaho historical books, fiction and non-fiction, and other Idaho materials for use with this section.

Activities in this Section:

1. "Urban Sprawl"
   Type of Activity: Research land use past and present
   Skills: Research, prepare information for presentation

2. "Readin' and Writin'"
   Type of Activity: Read a historical book and compare characters with life
   Skills: reading, writing

3. "Our Town"
   Type of Activity: Interviewing
   Skills: Oral, research, reporting

4. "That's the Way it Was"
   Type of Activity: Interviewing
   Skills: Oral, Research, Reporting

5. "The Governors' Dilemma"
   Type of Activity: Role playing
   Skills: Writing, Oral

6. "Chief Joseph Speaks"
   Type of Activity: Interview, Role playing
   Skills: Writing

7. "Two Ways of Looking at the Same Thing"
   Type of Activity: Writing Dialog
   Skills: Writing

8. "Return Our Land"
   Type of Activity: Role Playing
   Skills: Creative writing

9. "You Need Advice!"
   Type of Activity: Write a letter
   Skills: Writing

10. "Then and Now"
    Type of Activity: Research energy supplies, past and present
    Skills: Research, listing, library skills

URBAN SPRAWL

(Idaho Yesterday Activity #1)

Time: 3 class periods to two weeks

Materials Needed: Graph or poster paper and colored markers or slide/tape making materials, Art cards # 10, 15 and 18

Procedure:

Call the Agricultural Extension Agent in your area. Find out how much farm land has been lost to subdivision or business development in the last ten years. How many farms have been lost and farmers. Draw a graph, poster or map which illustrates the changes. (three hours); or make a slide tape presentation which illustrates the urbanization of your area (additional ten hours).

READIN' AND WRITIN'

(Idaho Yesterday Activity #2)

Time: One class period plus time to read a book

Materials: Historical books on Idaho, fiction and non-fiction. Paper, pencil, Art Card #1.

Procedure:

1. Read a historical book about Idaho and compare the life style of one of the characters to your own. Write a letter to one of the characters.

or

2. Compare the housing of one of the characters to your house. Make two lists or draw a house plan or model of the character's house.

OUR TOWN

(Idaho Yesterday Activity #3)

Time: 3 - 6 class periods plus out of class time

Materials: Local resources, library resources, Art card #20.

Procedure:

Find out when and why the area around your town was settled.
Make a brief report or time line showing the changes.
By interviewing older members of your family or neighborhood
and by research at the local public library.

THAT'S THE WAY IT WAS

(Idaho Yesterday Activity #4)

Time: One to two weeks

Materials: Tape recorder and blank tapes

Procedure: Interview several elderly people in your area to discover the way the area was in the past.

Sample Questions:

1. What was Idaho like when you were my age?
2. What were the schools like when you were my age? What subjects did you take? What education did the teachers have?
3. What did you do in your spare time when you were my age?
4. How has Idaho changed since you were my age?

THE GOVERNOR'S DILEMMA

(Idaho Yesterday Activity #5)

Time: One or two class periods

Materials: Paper and pencil

Procedure:

Imagine the present Governor of Idaho discussing energy usage and energy problems with a former Idaho Governor (choose one and stay within the historical period). Write a dialog between the two Governors.

Optional: Act out the dialog

CHIEF JOSEPH SPEAKS

(Idaho Yesterday Activity #6)

Time: One or two class periods

Materials: Paper and pencil

Procedure:

If Chief Joseph came back to Idaho today, what would he say to the people of the state. Imagine him on TV news show being interviewed by Barbara Walters. Write up the interview or act it out with the aid of a friend.

TWO WAYS OF LOOKING AT THE SAME THING

(Idaho Yesterday Activity #7)

Time: One class period

Materials: Old magazines, paper and pencil

Procedure:

Find a picture of an Indian. Find a picture of a modern business man. Write a dialog in which the two discuss their different approaches to energy use.

RETURN OUR LAND

(Idaho Yesterday Activity #8)

Time: One class period

Materials: Paper and pencil

Procedure:

Role playing: Suppose the Indians came back to demand their land returned in downtown Boise. Stage the discussion between the Boise City Council and the Indians.

Or:

Write a newspaper article for the Statesman Newspaper describing the confrontation.

YOU NEED ADVICE!

(Idaho Yesterday Activity #9)

Time: One class period

Materials: Paper and pencil

Procedure:

How could we incorporate Indian ideas in our approaches to today's energy problems? Imagine that one of these original Americans walked into your house. What kind of advice would he give you? Write it into a letter?

THEN AND NOW

(Idaho Yesterday Activity #10)

Time: One to three class periods

Materials: Library resources, paper, pencil

Procedure: Research energy supplies and uses in Idaho fifty years ago; 100 years ago. What are some of the differences between then and now? List these differences.

IDAHO TODAY

Goals and Objectives:

Students will become involved in issues and concerns that face Idahoans in the present. Through a variety of techniques they will look at environmental issues, energy problems, wildlife preservation and reasons for people to be moving into the State from other states.

Activities in this Section:

1. "Telling it Like It Is"
   Type of Activity: Impromptu speaking
   Skills: Oral

2. "Idaho Lives"
   Type of Activity: Writing and illustrating short environmental article
   Skills: Writing, illustrating, photography

3. "Idaho's Energy Man"
   Type of Activity: Creating a comic strip
   Skills: Writing, illustrating, creative thinking

4. "Radio Spots"
   Type of Activity: Writing and taping a radio commercial
   Skills: Writing, oral, audio-visual

5. "Mad Ad"
   Type of Activity: Design a newspaper advertisement
   Skills: Writing, designing a well-laid out advertisement

6. "Meet the Press"
   Type of Activity: Role Playing
   Skills: Writing, oral, listening

7. "Your Roots"
   Type of Activity: Developing a family tree
   Skills: Research, writing

8. "Ida-Views"
   Type of Activity: Interview newcomers to the area
   Skills: Oral, writing

9. "Dear Ann Landers"
   Type of Activity: Writing letters
   Skills: Writing

10. "We the People"
    Type of Activity: Role playing
    Skills: Reading, oral

TELLING IT LIKE IT IS

(Idaho Today Activity #1)

Time: One or two class periods

Materials Needed: None

Procedure:

Using an impromptu speech method, students should deliver a 2-3 minute speech using these topics or related student originated topics:

1. A gas tax on large automobiles
2. Minimum age for driver licenses extended to the age of 19
3. Automobile ownership limited to one car per family
4. Gas rationing
5. Private ownership of automobiles prohibited
6. Supermarkets and all industry must close at 7:00 P.M. and Sundays
7. During a water shortage, what is the highest priority: the farmer, industry, private homes, small business, medical services?
8. Should industry to allowed tc pour waste into our rivers and lakes?
9. The cost of actually owning and driving an automobile
10. The desirability of nuclear power?

IDAHO LIVES!

(Idaho Today Activity #2)

Time: 1 - 5 days plus outside class time

Materials Needed: Paper, plastic folder, camera, film

Procedure:

Plan an environmental article that celebrates our neat outdoors. Choose a theme like "Idaho Leaves", or "Leaves Around Our Town". Using your camera, take pictures. When the pictures are back, number them and write captions: "This leaf is like my hand", or "Trees are green spirits living". Then write a short article that tells people about your choice, what you did, and where it is.

Evaluation: Ask to have several students read and write a response to your article. Give the whole thing to your teacher.

THE ADVENTURES OF IDAHO'S ENERGY MAN

(Idaho Today Activity #3)

Time: 1 - 3 class periods

Materials Needed: Paper, marking pens, scissors, Art Card #3

Procedure:

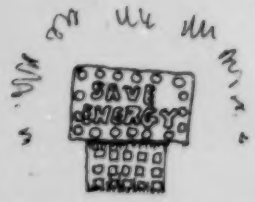
Make a comic strip using Energy Man as your hero. Have him meet a variety of villains and triumph!

Some suggestions:

Energy Man meets - Muck Man
Pollution Prunella
Oil Slick Sam
Nuclear Neil
Litter Lilly
Killer Watts
Wasteful Wally

II. Find cartoons on energy topics and make a bulletin board for your classroom.

RADIO SPOTS



(Idaho Today Activity #4)

Time: 1 - 2 class periods

Materials Needed: Paper, Pencil, Tape Recorder

Procedure:

I. Write a 30 second radio spot to advertise one of the following:

1. Wildlife preservation
2. Energy Conservation
3. Car Pools
4. Water Conservation
5. Other

II. You can start with sound effects and use an announcer's voice

III. Tape the commercial and play it for your class

MAD AD

(Idaho Today Activity #5)

Time: 1 - 2 Class periods

Materials Needed: Paper, pencils, magazines, camera and film

Procedure:

You are a member of an environmental group, the Save Our Snake (S.O.S.). You are trying to persuade the people to join your group's efforts to protect the Snake River from pollution. Design a newspaper advertisement using pictures, photos, sketches and writing to make your appeal.

MEET THE PRESS

(Idaho Today Activity #6)

Time: 1 Class period

Materials Needed: Paper and Pencil

Procedure:

Select a head of an energy program from among class members. Ask the head of the energy program to leave the room; then have other students write energy questions to ask the leader. The energy leader returns to the room and is interviewed by the "reporters". Several energy heads could be selected and a press conference set up.

YOUR ROOTS

(Idaho Today Activity #7)

Time: Two Days

Materials Needed: Family Tree

Procedure:

1. Make a family tree which traces back as far as you can go.
2. Put birth dates and places of birth for each member.
3. Try to find out when your family first came to America and where they settled.
4. Try to find out when your family first came to Idaho, where they settled, and why they came.

References: Parents, grandparents, family Bibles, family diaries, etc.

IDA-VIEWS

(Idaho Today Activity #8)

Time: 2 - 3 days outside class, 2 - 3 class periods

Materials Needed: Paper, pencil, tape recorder and blank tapes

Procedure:

Students may do this activity in groups of three. Interview four or five newcomers to your town. Write out interview questions such as:

1. Where were you born? What was the area like?
2. What were the reasons that you came to Idaho?
3. Do you like Idaho and this city?
4. Have you had much time to travel throughout Idaho?

Note: You may then have a class discussion; a panel discussion; or a debate concerning Idaho's population, over-population or future growth.

DEAR ANN LANDERS

(Idaho Today Activity #9)

Time: 1 class period

Materials Needed: Pencil and paper

Procedure:

Answer the following letters as Ann Landers might, or write your own letters to Ann Landers (another student could write a response to your letter).

Dear Ann Landers:

My Dad and Mom say I use too much hot water. I have tried to make them understand that I need a hot shower every morning and I must wash my oily hair every day. They reply that there is a water shortage.

In Hot Water

Dear Ann Landers:

My children gave me $300 for an electric dish washer. I would rather insulate the house to save on heating bills. The kids feel that I am double-crossing them. Their argument is that more of their time and energy is expended on the dishes.

Help! Mom

Dear Ann Landers:

My neighbors are all giving me dirty looks because I bought a new station wagon that gets poor gas mileage. I think that it is necessary because we have 6 kids.

Energetic!

WE THE PEOPLE

(Idaho Today Activity #10)

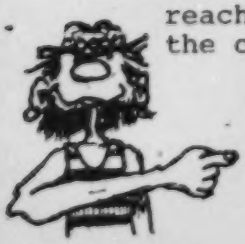
Time: 1 - 2 class periods is time to read a book

Materials Needed: Multiple copies of ENEMY OF THE PEOPLE by Henrik Ibsen

Procedure:

1. Have students read Enemy of the People
2. Role Playing
   Students are in a committee meeting to decide what happens o water use in their community. The committee consists of people from:
   Business Industry Utilities Farmer(s) Environmentalist(s) Fish and Game Parks & Recreation

Work with 6 other students and role play this situation until you reach a compromise. Send a letter to the Mayor's office to report the committee decision.



IDAHO TOMORROW

Goals and Objectives:

Students will become involved in thinking about the future and what changes this will bring about in Idaho, in jobs, in school and in their own lives.

Activities in this Section:

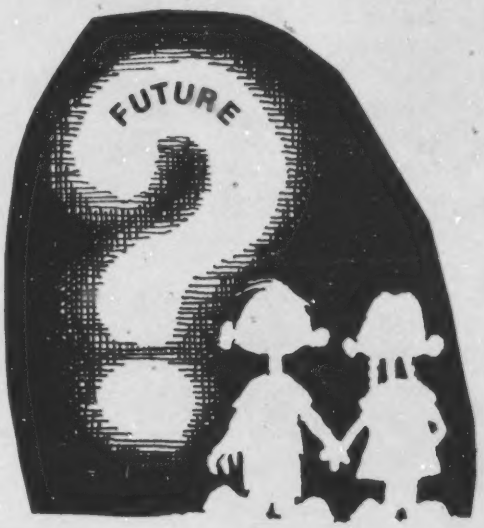
1. "Futurescape"
   Type of Activity: Representing a downtown of the future
   Skills: Map reading, interviewing

2. "Mapping the Future"
   Type of Activity: Map-making
   Skills: Interview, map-reading

3. "Design a Utopia"
   Type of Activity: Designing a Utopia
   Skills: Reading, writing

4. "Robot-Mania"
   Type of Activity: Designing a brochure or manual
   Skills: Writing, drawing, lay-out

5. "Futuristic Farming"
   Type of Activity: Looking at future farming
   Skills: Writing, drawing



6. "Commuterization"
   Type of Activity: Designing future commuter systems
   Skills: Writing, diagraming

7. "The Space Academy"
   Type of Activity: University of the future
   Skills: Writing, listing, creative thinking

8. "Futures to Work For"
   Type of Activity: Policy Making
   Skills: Reading, writing, library research

9. "Home Tour"
   Type of Activity: Planning a house of the future
   Skills: Interview, library research, writing

10. "Motor Trend"
    Type of Activity: Designing a vehicle for the future
    Skills: Drawing, reading, writing

FUTURESCAPE

(Idaho Tomorrow Activity #1)

Time: 2 - 3 class periods, out of class time

Materials Needed: Art Cards #'s 7 and 10

Procedure:

What will downtown _____ look like in the year 2000?

1. You will need a map or picture of the main street of your town as it is now. Walk down the street and draw a quick sketch of the positions and names of the buildings and businesses on the street. Mark the street name, directions, stop lights, and approximate width and length of the street.

2. To determine the changes, interview one or more of the following people in your community: City Engineer, realtor, Chamber of Commerce member, city planner, architect, utility or energy office representative, etc. Ask your teacher about proper interview techniques.

3. Using the information that you gained in the interview, do a diorama representing your prediction of what Main Street will look like in the year 2000.

MAPPING THE FUTURE

(Idaho Tomorrow Activity #2)

Time: 2 - 3 class periods, out of class time

Materials Needed: Paper, pencil, map making materials, Art Card #10

Procedure:

What will a map of _____ look like in the year 2000?

1. In order to make your future map, you will need a map of the town as it is now and the surrounding area.

2. Interview one or more of the following people to find the answers to the listed questions: City Engineer, realtors, Chamber of Commerce, city planner, architect, city council member, planning commission.

   a. Where will the business, industrial and residential areas be?

   b. What shape will the town be? Which way is the town growing?

   c. How many people are projected to live in our town by the year 2000?

3. Based on the information that you are able to obtain, make a map of the future.

DESIGN A UTOPIA

(Idaho Tomorrow Activity #3)

Time: 1 - 2 calss periods plus time to read a book

Materials Needed: Futuristic and Utopian books such as:
WHY I WENT TO THE WOODS by Thoreau
WALDEN II by B. F. Skinner
1984 by George Orwell
BRAVE NEW WORLD by Aldous Huxley
TUNNEL IN THE SKY by Robert Heinlien
TIME OUT FOR THE STARS by Robert Heinlien

Procedure:

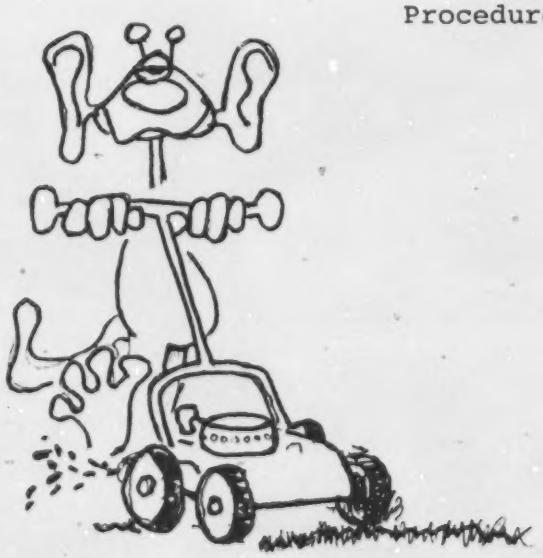
1. Each student should read a futuristic or utopian type of book
2. Each student should choose one of these writing projects:
   a. Design your own Utopia. Describe the government, schools, living quarters, jobs, transportation, use of leisure time and family life.
   b. Imagine your own Utopia and write a short story using it for a setting.
   c. Pretend to be a member of your Utopia and write a series of journal entries about your life.
   d. Write a letter to a friend trying to persuade him/her to move to your Utopian community.

ROBOT-MANIA

(Idaho Tomorrow Activity #4)

Time: 1 class period

Materials Needed: Paper and pencil



Procedure: You are living in the year 2050. You have just graduated from Space Age University and have been hired by a computer company. Your first project is to write a manual for robot maintenance. The robot is a household model used to free people from chores.

1. Tell people how to care for the robot - oil, new parts, etc.
2. Draw the different attachments and explain how to use each one.
3. Develop a brochure or manual including this information.

FUTURISTIC FARMING

(Idaho Tomorrow Activity #5)

Time: 1 class period

Materials Needed: Paper, pencil

Procedure:

Pretend that you are an Idaho farmer in the year 2000. There is no more petroleum and nuclear power has been banned.

Choose one activity to do:

1. Write a diary page for April 1, 2000. What did you do today in your work? What energy sources did you use? Describe the farm equipment that you used. You may want to draw a picture of this equipment.
2. Write a report to the Idaho Office of Energy explaining the energy usage on your farm.
3. Make a list of the appliances that you use - describe these appliances or make a drawing of them.
4. Design a menu for an energy conscious family of four.

COMMUTERIZATION

(Idaho Tomorrow Activity #6)

Time: 1 class period

Materials Needed: Paper, pencil, Art Card #1

Procedure:

It is the year 2000 and you live in the GREATER BOISE METROPOLITAN AREA -- near the old town of Payette. How do you get to your job in downtown Boise everyday? Describe the commuter system in Idaho's future. What are its energy sources? What does it look like? Use a diagram or model with appropriate labeling.

THE SPACE ACADEMY

(Idaho Tomorrow Activity #7)

Time: 1 or 2 class periods

Materials Needed: Pencil and paper

Procedure:

You are living in the year 2100. You are a freshman at Intersteller University, Idaho campus.

Choose one:

1. You need to decide upon a major and are looking at the following: Robot Engineering; Bionics; Rocketry; Computerized Education; Spaceship Engineering; Faster Than Light Physics; Intergalactic Psychology, Xenobiology (biology of extraterrestrial beings); Cloning; Treatment of Vulcans.
   Make up a list of courses that you would need for the major that you decide upon with a course description for each class. Plan a five year curriculum.

2. What else might you major in? Intergalactic politics? Robot Education? Computerized Nursing? Spaceship Engineer. List 25 new occupations of the future with brief descriptions of the job and job requirements.

3. List the courses which might be offered in your high school in the year 2100.

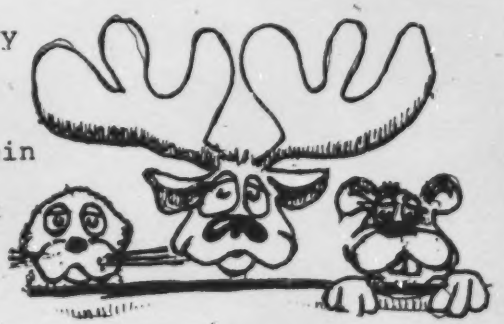
FUTURES TO WORK FOR

(Idaho Tomorrow Activity #8)

Time: 2 or 3 class periods plus time for reading a book

Materials Needed: Books such as:

LOOKING BACKWARD by Edward Bellamy
DARK THEY WERE AND GOLDEN-EYES by Ray Bradbury
THE UTOPIA by Sir Thomas More
THE REPUBLIC by Plato
THE DOOR INTO SUMMER by Robert Heinlein
THE MOON IS A HARSH MISTRESS by Robert Heinlein
WALDEN II by B. F. Skinner
GULLIVER's TRAVELS, Book IV by Jonathan Swift
THE DISPOSSESSED by Ursula K. LeGuin
THE WRITINGS OF BUCKMINSTER FULLER



Procedure:

Have each student read a book from the list above.

Choose one:

1. List and write the major sections of the environmental or energy bills which the Idaho Legislature will consider in the year 2000. Be sure to make your bills sound like formal legislative proposals (research in the library).
2. In the year 2080 an energy amendment to the Constitution will be considered by the U.S. Senate. Write that amendment. Be sure to make your amendment sound like a real amendment. Read some amendments to get the flavor.

HOME TOUR

(Idaho Tomorrow Activity #9)

Time: 3 to 4 class periods

Materials Needed: Blue print paper, paper, pencil, supplies for making a model, Art Card #1

Procedure:

What will your new house look like in the year 2000?
To find out:

- Call a local architect or building contractor and arrange an interview
- Or, call the planning and zoning commission in your town
- Or, visit an older area of town and visit the newest section. What are the differences in construction, materials, design, heating devices. Try to predict future trends
- Research housing trends at the public library

To Do: (choose one)

1. Design a house on blueprint paper and label the parts.
2. Build a model showing your house of the future with all of the parts clearly labeled.
3. Write an article for a Home Beautiful Magazine for the year 2000; illustrate and explain your new home.

MOTOR TREND

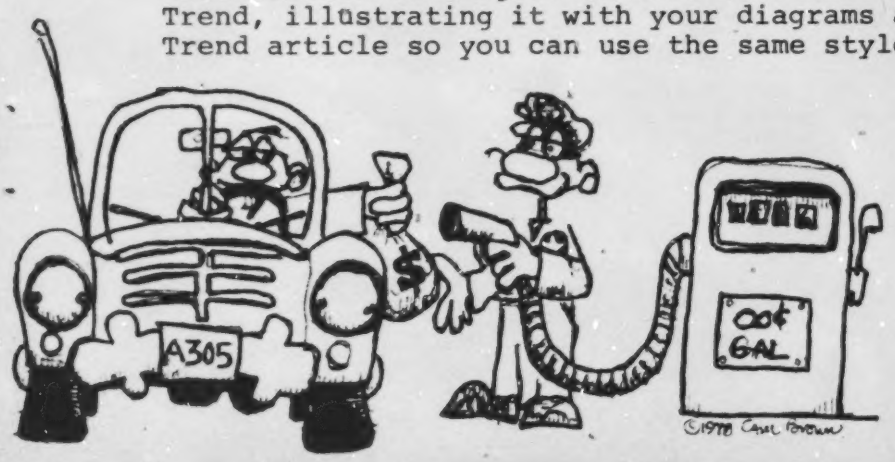
(Idaho Tomorrow Activity #10)

Time: 1 to 2 class periods

Materials Needed: Paper, pencil, Motor Trend magazines

Procedure:

Design the Motor Trend car of the year for 2080; making sure it is energy efficient or uses a new form of energy for its fuel. Draw an illustration or diagram of this vehicle. Write the article for Motor Trend, illustrating it with your diagrams and pictures. Read a Motor Trend article so you can use the same style and language.



A FUTURE TO AVOID

Goals and Objectives:

Students will explore a future world to be avoided by reading science fiction and thinking about ways that decisions made in the present will affect the future.

Activities in this Section:

1. "Where Have All the Fishes Gone?"
   Type of Activity: Writing memoirs
   Skills: Writing

2. "The Bad Life"
   Type of Activity: Writing an appeal to the citizens of earth
   Skills: Reading, writing, listing

3. "News Flash!"
   Type of Activity: Writing a diary or journal
   Skills: Writing

4. "Mankind - The End!"
   Type of Activity: Writing a history of the end of man
   Skills: Writing

5. "Man-ifact"
   Type of Activity: Creating an artifact
   Skills: Creative thinking

6. "Who is to Blame?"
   Type of Activity: Mock trial
   Skills: Oral, writing, summarizing

7. "Wells' Revisited"
   Type of Activity: Writing a radio script
   Skills: Writing, creative thinking, oral

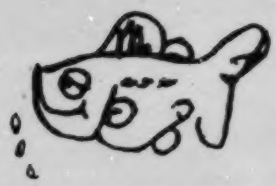
8. "Adaptability"
   Type of Activity: Art project to follow up reading
   Skills: Reading, Creative thinking

9. "Alpha Centauri"
   Type of Activity: Writing a speech, diary, play or short story
   Skills: Writing, creative thinking

10. "Energy Futures"
    Type of Activity: Writing about future energy sources
    Skills: Reading, writing, creative thinking

WHERE HAVE ALL THE FISHES GONE?

(Future to Avoid Activity #1)



Time: 1 class period

Materials: Paper, pencil, Art Card #10

Procedure:

It is the year 2050. The Idaho lakes and rivers are so dirty that all the game fish are gone. You have just taken your grandchildren to the Idaho Marine Museum to see the last pair of living rainbow trout. Your grandchildren want to know what fishing was like when you were a teenager and what happened to all the fish.

1. Write your fishing memoirs for your grandchildren, including a memorable fishing trip, the number and type of fish caught.

2. Make a map of your favorite fishing spot.

THE BAD LIFE

(Future to Avoid Activity #2)

Time: 1 class period plus out of class time

Materials: Paper, pencil, selection of science fiction books to include:

On the Beach, Nevil Shute
Andromeda Strain, Michael Creighton
Fahrenheit 451
The Time Machine, H. G. Wells

Procedure:

1. Read a book set in the future that shows a "negative utopia".

2. Pretend you have visited the world in this book and come back to the Twentieth Century. Try to convince the world to change its ways by writing an appeal to earth's citizens with a list of things to be done to avoid such a future.

NEWS FLASH!!

(Future to Avoid Activity #3)

Time: 1 - 2 Class periods

Materials: Paper and pencil

Procedure:

Flash! Mountain Home Air Force Base has been bombed in World War III!

1. You survive the bombing. What happens to you? What do you do? What do you need?

2. Write a diary or journal account of your first few days of survival.

MANKIND - THE END!

(Future to Avoid Activity #4)

Time: 1 - 2 class periods

Materials: Paper, pencil

Procedure:

You are a scholarly android writing a history of that ancient and now extinct being, Man. Write the last chapter in your book telling about the final destruction of mankind.

MAN-IFACT

(Future to Avoid Activity #5)

Time: 1 - 2 class periods

Materials: Art Cards

Procedure:

You are the last human on earth. You want to leave an artifact or art work to future visitors to earth so they will understand mankind. Create your message for the future in the art form of your choice - drawing, sculpture, poem, etc.

WHO IS TO BLAME?

(Future to Avoid Activity #6)

Time: 2 - 3 class periods

Materials: Pencil, paper, library resources

Procedure:

Set up a mock trial with the prosecutor representing your grandchildren who have limited resources with a limited energy base. The defendent represents the 1978 student.

You will need:

- Judge
- Bailiff
- Prosecuting Attorney and Assistant
- Defendent
- Defense Attorney

Develop your own cases. What will happen if we do not conserve energy? How will grandchildrens' lives be changed? How will a lack of energy influence homes? Occupations? School?

WELL'S REVISITED

(Future to Avoid Activity #7)

Time: 3 - 4 class periods, outside class time

Materials: A record or cassette tape of "War of the Worlds" by H. H. Wells.

Procedure:

Work individually or in small groups.

1. Listen to "War of the Worlds"
2. Write a radio play set during the time that the world supply of fossil fuels run out.
3. Tape record your play and play it for the class.

ADAPTABILITY

(Future to Avoid Activity #8)

Time: 1 - 2 class periods

Materials: A selection of books set in the future to include:
Planet of the Apes, Author ?
The Time Machine, H. G. Wells
Future Ahoxk, Alvin Toffler

Procedure:

1. Read a book set in the future in which man's environment has become hostile.
2. How will man physically change to adapt to this different environment?
3. Develop a model picture, anatomy chart, sculpture, mask, etc. to illustrate these changes.

ALPHA CENTAURI

(Future to Avoid Activity #9)

Time: 1 class period

Materials: Paper, pencil

Procedure:

You are a member of the only human colony on Alpha Centauri that survived the destruction of earth. Tell about the escape from earth or the early adventures of the colony on the new planet in a diary, short story or play.

or,

Pretend you are a visitor from Alpha Centauri and write a speech to warn the earth of what is about to occur.

ENERGY FUTURES

(Future to Avoid Activity #10)

Time: 1 class period, out of class time

Materials: Paper, pencil, selection of science fiction books.

Procedure:

Read a book set in the future. Write about the possible energy sources that are necessary for the world as presented in the book you have read.

HOME AND SCHOOL ENERGY SAVINGS

Goals and Objectives: Students will become aware of the ways that energy is used and conserved both at home and in the school.

Activities in this Section:

1. "Uncovering the Energy Mystery"
   Type of Activity: Researching energy usage and preparing panel discussions
   Skills: Research, writing, oral, outlining

2. "Pasting It Up"
   Type of Activity: Preparing an energy collage
   Skills: Research, writing, illustrating, creative thinking

3. "AC's and DC's"
   Type of Activity: Designing appliances and advertising
   Skills: Research, writing, illustrating, creative thinking

4. "Appliance Trip"
   Type of Activity: Comparing energy efficiency of new appliances
   Skills: Research, interview, comparison, writing, oral

5. "Let's Wrap It Up"
   Type of Activity: Checking the waste in packaging materials.
   Skills: Comparison, listing, writing, illustrating

6. "What Parents Know"
   Type of Activity: Inviting parents to speak on home energy conservation
   Skills: Oral, writing, listening

7. "School Detective"
   Type of Activity: Saving energy at school
   Skills: Research, writing, value judgements

8. "On the Air!"
   Type of Activity: Preparing energy conservation scripts for the air.
   Skills: Research, writing, oral

9. "Flying High and Diving Deep"
   Type of Activity: Designing a house for the future
   Skills: Research, writing, oral illustration, creative thinking

10. "And Here's _____"
    Type of Activity: Interview the school janitor about energy usage
    Skills: Writing, oral

UNCOVERING THE ENERGY MYSTERY

(Home and School Energy Savings Activity #1)

Time: 2 - 3 class periods

Materials: Library resources, paper, pencil

Procedure:

1. Research one of these areas: home heating, insulation, appliance purchasing, water use, and other energy "eaters."
2. Prepare an outline for a 20-minute panel discussion before the class.
3. Working in Groups of 4-6, have energy panel discussions before the rest of the class, or invite another class in to listen.

PASTING IT UP

(Home and School Energy Savings Activity #2)

Time: 1 - 2 class periods

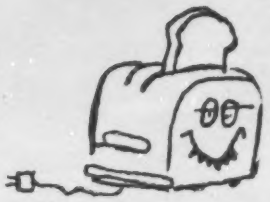
Materials: Grab bag of varied materials for use in making collages, glue, scissors, poster board, felt pens, Art Cards #6 and 15

Procedure:

Create a poster collage which illustrates one of the following:

1. Energy saving procedures at home
2. Energy saving procedures at school
3. Water savings at home and/or school
4. Other

AC's and DC's



(Home and School Energy Savings Activity #3)

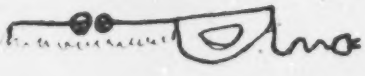
Time: 1 - 2 class periods

Materials: Old magazines, any modeling media, poster board, scissors, glue, felt pens, cassette recorder, blank tapes, Art Card #6

Procedure:

Select one to do:

1. Design a collage of current appliances and write energy saving information to go with each appliance.
2. Write an advertisement on an energy efficient appliance for radio, T.V. or newspapers - include illustrations.
3. Design a new energy-efficient appliance using found and scrap meterials; design a brochure to "sell" your product.



APPLIANCE TRIP

(Home and School Energy Savings Activity #4)

Time: 1 - 2 class periods

Materials: Library resources, local power company, paper and pencil

Procedure: You are furnishing a new house and need to buy appliances

Step I
Go to the library and use the Consumer's Reports and other consumer magazines to compare the energy efficiency of 3 different brands of refrigerators, stoves, and freezers.

Step II
Call your local power company and ask for information about the energy efficiency of the appliances you have researched.

Step III
Go to a store that sells appliances and compare energy efficiency ratings for several models of each appliance. Fill in chart --

	MODEL I	MODEL II	MODEL III
Refrigerator			
Stove			
Freezer			

Step IV: Share your information with classmates

LET'S WRAP IT UP

(Home and School Energy Savings Activity #5)

Time: 1 - 2 class periods

Materials: Poster board, felt pens, other art meterials, Art Card #15

Procedure:

1. Save all the packaging materials from the waste paper basket in your home for two days. Keep a list of the weights of the material that was in each package (it's on the label of most items). At the end of two days, put all the packaging in a bag and weigh it. How much did the packaging weigh? Add up the list of weights of the original things which were in the packaging.

2. Design a poster or graph which illustrates your findings.

WHAT PARENTS KNOW

(Home and School Energy Savings Activity #6)

Time: 2 class periods plus time for speakers

Materials: Paper, pencil

Procedure:

1. Students discuss in class that their parents have been doing around the house to conserve energy. Students then decide which areas are of most interest to them.

2. Students then review (or learn) letter writing procedures and write a letter inviting parents to speak in class.

3. Students prepare written questions prior to the event.

SCHOOL DETECTIVE

(Home and School Energy Savings Activity #7)

Time: 2 - 3 class periods

Materials: Paper, pencil, school resources

Procedure:

Students divide into groups and "investigate" the following:

1. Examine insulation around school windows
2. Examine cracks around doors and on walls
3. Read themostat and determine the cause of hall drafts
4. Examine the lighting and decide if light usage can be minimized
5. Find out the cost of heating, air-conditioning, etc.
6. Determine which "subjects" take the most energy (i.e. art kiln, biology lab, etc.)

Collate the material and write a report for the Principal.

ON THE AIR

(Home and School Energy Savings Activity #8)

Time: 1 - 2 class periods

Materials: Paper, pencil, tape recorder or video-tape equipment

Procedure:

Work singularly or in groups of 2 or 3.
Prepare scripts for 1 to 2 minute television (video-tape) commercials or radio-spot emphasizing ways to save energy.
Local radio stations and/or television stations can be approached for the possibility of using the students' product when the commercials are taped or recorded.

FLYING HIGH AND DIVING DEEP

(Home and School Energy Savings Activity #9)

Time: 3 - 4 class periods

Materials: Paper, pencil, straight edge, erasers, graph paper, Art Card #1

Procedure:

1. Design a house for 2050 to be built on air or above or below water (i.e. in the year 2050 no land is available).
2. Building materials as we know them are no longer available; therefore, the materials to be used must be specifically noted.
3. Commonly used energy sources are either over taxed or not in existence. What can be used?
4. A three minute talk and/or a written description of the project should be given after the "designing" periods.

House plans may be done two ways (or both ways); blueprints or models

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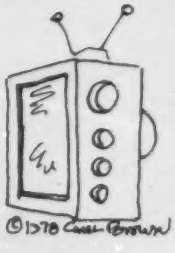
AND HERE'S _____



(Home and School Energy Savings Activity #10)

Time: 2 class periods

Materials: Paper, pencil, video-tape equipment

Procedure:

1. Review proper interview techniques and formulate interview questions in preparation of talking to the head janitor at your school about energy usage in your school
2. Interview the janitor.
3. After the interview: write the results in a news story for the school newspaper or do a T.V. newscast. (Use the video tape machine if available).

INVENTIONS WHICH RELY ON ENERGY

Then, Now and Future Thinking

Goals and Objectives:

Students will read about people and the technological advances for which they were responsible. They will then be asked to discuss, make value judgements, and write compositions to demonstrate what they have learned. Other activities deal with word coinage, manipulation, and symbolism.

Activities in this Section:

1. "Who Was What?
   Type of Activity: Read biographies and prepare a class newspaper.
   Skills: Reading, writing, compiling

2. "Inside Story"
   Type of Activity: Read biographies and characterize one person.
   Skills: Reading, writing, oral

3. "What Did She Do?"
   Type of Activity: Research women's contribution to technology.
   Skills: Writing

4. "Riddle Me Not"
   Type of Activity: Prepare energy riddles
   Skills: Writing

5. "Fictionary"
   Type of Activity: Work with "energy" suffixes, prefixes and compounds.
   Skills: Word study, writing

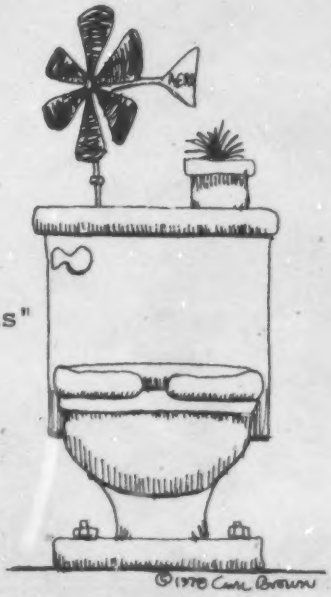
6. "Hink Pink or Hinkety Pinkety"
   Type of Activity: Prepare "hink-pinks, etc. on energy.
   Skills: Writing, word study

7. "If You Ask Me!"
   Type of Activity: Create energy posters
   Skills: Sentence study

8. "The Prez Sez"
   Type of Activity: Make value judgements.
   Skills: Written, oral.

9. "21 Questions"
   Type of Activity: Play an energy "21 Questions"
   Skills: Research, oral

10. "Patent Pending"
    Type of Activity: Learn about patents.
    Skills: Research, writing, value judgement



WHO WAS WHAT?

(Inventions Which Rely on Energy (Then Thinking) Activity #1)

Time: 2-3 Class periods, plus time to read a biography (outside of class)

Materials: Selected biographies, paper, pencil

Procedure:

Students will choose biographies of those people who have contributed or are responsible for inventions which altered our life styles or affected energy usage. Biographies could include those on Edison, Ford, Marconi, the Wright Brothers, Bell, Van Braun, etc.

After reading the books, students write news stories, all of which will be incorporated into a class newspaper. Students editors decide who gets the banner headline. The writing should be varied as in a "real" paper with editorials, comics, features, etc. All written on the people that have been read about.

The class newspaper can be exchanged with other classes or displayed at the school or public library.

INSIDE STORY

(Inventions Which Rely on Energy (Then Thinking) Activity #2)

Time: 1 class period, plus outside time to read a biography

Materials: Selected biographies

Procedure:

Students will each read a biography about a person who has contributed to our technological advances, including well-known people such as Edison, Bell, Ford, etc. and unknown people.

Students will characterize the person they read about, showing what the person was really like. The characterization can either be written or verbal.

WHAT DID SHE DO?

(Inventions Which Rely on Energy (Then Thinking) Activity #3)

Time: 2-3 class periods

Materials: Library resources

Procedure:

Students will use library resources to discover what contributions women have made or are making to energy-related technology.

Then, the student will write a mini-biography with a cut-out shape that symbolizes her contribution (for example, write a mini-biography on a cardboard cut-out of a car if the women contributed towards automobiles, fuels etc.)

Display the mini-biographies in the classroom or the library.

RIDDLE ME NOT

(Inventions Which Rely on Energy (Now Thinking) Activity #4)

Time: 1 class period

Materials: Paper, pencil

Procedure:

Prepare riddles which can be answered by the following energy users (add others if you want):

computers	railroads	stereo	boat
transistors	automobiles	movies	telephone
robots	light bulbs	television	typewriter
rocketry	telegraph	space shuttle	plane

Examples:

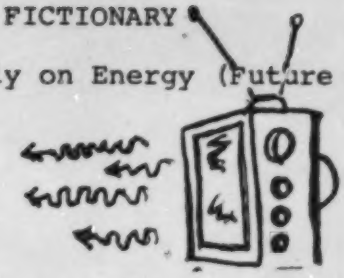
Riddle: What is black and white, operates on street corners, and works for ten cents? (pay telephone)

Riddle: What lights up, moves in the dark? (motion picture)

Riddle: What runs without feet, knocks without fists, and blinks without eyes? (automobile)

FICTIONARY

(Inventions Which Rely on Energy (Future Thinking) Activity #5)



Time: 1 class period

Materials: Paper, pencil

Procedure:

Words that name inventions are often compound words. For example:

tele (far) + phone (sound) named a new invention = telephone.
tele (far) = graph (write) = telegraph

Students determine what inventions might be in use in the year 2025, such as solar powered vehicles, etc. Then make up names for those inventions.
Student should look up definitions of root words, utilize those they think are suitable and add new ones.

Samples: astro, bio, geo, tele, psych, auto, iso, mega, turbo, phone, vision, sonic, deca, mono, sudio, chem, eco, kilo, maxi, mini
Optional: Have a "fictionary" word down; operate this like a spelling bee. For example, the response to an "astro-mobile" might be a "star-ship".

HINK PINK OR HINKETY PINKETY

(Inventions Which Rely on Energy (Now Thinking) Activity #6)

Time: 1 class period

Materials: Paper, pencil

Procedure: Write an energy question and answer it with a Hink-Pink, a Hinky Pinky or a Hinkety Pinkety. Work in pairs or small groups.

Hink Pink = 1 syllable words Hinky Pinky = 2 syllable words
Hinkety Pinkety = 3 syllable words

Examples: A luminous bulb? bright light
An outer space shot? star car
Starting of our planet? earth birth
A warm rocket? hot shot
A spaceship bolt? rocket sprocket
A transmission pole? power tower
Air and water clean-up? pollution solution
A radio hater? transistor resistor

IF YOU ASK ME!

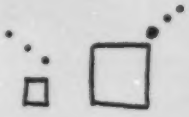
(Inventions Which Rely on Energy (Now Thinking) Activity #7)

Time: 1 class period

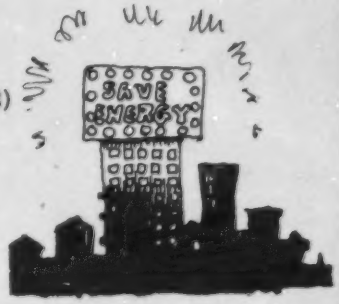
Materials: Scraps of colored construction paper; poster board, felt pens

Procedure:

Using scraps of paper, cut out different sizes and colors of squares, circles, and triangles. Use these to create energy posters per samples.

Do I need to go on an Energy diet?	Is pyramid power the answer to the energy crisis?	 Pardon me, your decible is showing!	Will the computer replace me?

THE PREZ SEZ



(Inventions Which Rely on Energy (Now Thinking) Activity #8)

Time 1 class period

Materials: Paper and pencil

Procedure:

Pretend there has been a Presidential Proclamation:

"It is hereby decreed that energy usage will be decreased by 50%."

Which of the following energy users will you eliminate? Explain why you chose the one(s) you did to eliminate:

stereos	telegraph	airplanes	electric typewriters
movies	lights	computers	air-conditioning
television	automobiles	space rockets	electric appliances
telephone	trains	radios	heating systems

21 QUESTIONS

(Inventions which rely on Energy (Then and Now Thinking) Activity #9)

Time: 1 class period

Materials: Paper and pencil

Procedure:

Each student thinks of an invention. One student is in front of the group with his invention written on a piece of paper and turned over so the others can't see it. Other students ask up to 21 energy-related "yes" and "no" questions to determine the name of the invention.

Sample questions:

Do you use electricity?
Do you use a lot of electricity?
Do you get residential rates?
Do you require more power now than you used to?
Have you been up-dated lately?
Have you changed power sources since your invention?

PATENT PENDING

(Inventions which rely on Energy (Now Thinking) Activity #10)

Time: 2-3 class periods

Materials: Library resources, paper, pencil

Procedure:

1. Research the patent process and write briefly about it.
2. Choose a classroom patent "bureau".
3. Have students write up new energy-saving inventions to submit to the class patent bureau.
4. After all of the inventions have been submitted have the bureau judge each one as to:
   a. originality and clarity of writing
   b. energy savings
   c. usefulness to the general public

NOW THINKING: TRANSPOR-MANIA

Goals and Objectives:

Students will explore the processes involved in making value judgements. Supplementary work will be done in basic language skills such as writing narratives, song lyrics, reading newspapers, and creating "orits". The central focus in this unit is a debate (simulation) game which involves each student in the classroom. With the exception of the debate game, most activities can be handled in a one-hour class period. Some can be expanded to a two-hour period.

Activities in this Section:

1. "To Park or Not to Park: That is the Question!"
   Type of Activity: Participate in a debate (simulation) game
   Skills: Research, oral

2. "Auto-Obit"
   Type of Activity: Write automobile obituaries
   Skills: Writing, word study

3. "The Way It Was"
   Type of Activity: Write short narratives
   Skills: Writing

4. "A Day in the Life of ..."
   Type of Activity: Write a diary page
   Skills: Writing

5. "Fuelish Features"
   Type of Activity: Read newspapers and collate material
   Skills: Reading, research, writing

6. "Look It Up!"
   Type of Activity: Read advertisements in newspapers and magazines and collate material
   Skills: Research, reading, listing, oral

7. "Consumer Choice"
   Type of Activity: Utilize library skills
   Skills: Research, reading, writing, summarizing

8. "Auto-Lyrics"
   Type of Activity: Write song lyrics
   Skills: Writing, word study, music

9. "Pick a Transport"
   Type of Activity: Research transportation and family needs
   Skills: Research, reading, writing, oral

10. "How Fast Can You Drive?"
    Type of Activity: Research speed limits
    Skills: Research, reading, listing, survey, oral, writing

TO PARK OR NOT TO PARK: THAT IS THE QUESTION!

(Transpor-Mania Activity #1)

Type of Activity: Debate (simulation) Game

Goals and Objectives: The debate issue - "Should the Parking Lot be closed? Requires that students research facts, collate facts, present a logical argument and make a judgment.

Time: One week

Size of group: Entire class; students are paired. The pairs research one area and formulate an argument; they decide who should present the verbal argument. The other student in each pair serves as a member of the school board.

Materials: Driver Education Energy packet (available from your school's driving instructor).

Evaluation: Each pair is given 10 points; individual students determine how the points should be divided, using the amount of work done as the guide for distributing the points.

Procedure: One student from each pair assumes the identity of one of the following:

1. PTA President
   Position: Close the parking lot

Possible data and arguments: Number of cars in the lot, number of accidents, auto injuries, number of single drivers, fuel wasted.

2. Student 1: 14 years old, lives 5 miles from school on a farm
   Position: You have to drive a car to school

Possible arguments: Has plenty of money to buy gas; gets the gas at a discount; owns own car; on the basketball team but has a "football knee" and can't walk or ride a bicycle; says he is "handicapped"; has data of those who live more than two miles from the school.

3. President of the Local Bus Company
   Position: Students should be required to take buses to school

Possible arguments: List of what buses are available; cost of operating buses compared to car operation; actual gas consumed; bus loads.

4. Student 2
   Position: Bus isn't convenient

Possible arguments: Bus stops are too far apart; the time the bus comes is inconvenient; "I have my own obligations such as milking a cow before I go to school"; takes too much time to get to school on the bus.

5. Coach
Position: Close the parking lot and utilize space for athletic events

Possible arguments: The parking lot can be converted to basketball and racquet ball courts (or handball courts); tennis can be played by more students if lot is converted to tennis courts; there could be a jogging area on the lot and a more effective track field; the lot could be a year-long recreational area. The community could use the space (multi-use space).

6. Macho Student
Position: Bikes won't work

Possible arguments: No bike paths; unsafe to ride a bike in this town; bikes are "ripped off"; weather conditions in the winter time; bike riding is not socially accepted; we have "too much homework to be able to get it home on a bike".

7. Cheerleader
Position: Bikes are neat

Possible arguments: Data on how many students ride bikes; how many bikes the bike racks hold; which are stolen (how many); the health aspect of riding a bike to school; the expense conpared to the car; the anti-pollution aspect.

8. Track Star
Position: Walk

Possible arguments: A "purist" - speaks of the value of walking; it is pleasant, sometimes faster than taking a bus or driving a car; one can see the scenic beauty, can "slow down one's life" to enjoy the important things of life.

9. Businessman: President of the Athletic Boosters, wealthy, owner of largest car dealership in town
Position: Cars should be allowed to use the parking lot since cars are an important part of American life

Possible arguments: He donates 10 per cent of his profits to the athletic program at school; if students don't buy cars and drive them to school, he will lose business and have to lay-off men and cut donations to athletics.

10. President of the Motorcycle Club
Position: Everyone should drive motorcycles to school

Possible arguments: The fuel savings justify the noise factor; only one-eighth of the parking lot would have to be used; you are in the fresh air for more time.

11. Policeman or Sheriff
Position: Students shouldn't drive cars to school

Possible arguments: Danger of motorcycles and bikes (no bike paths); accidents of student's driving cars; nuisance factor of the parking lot - "it's just a beer lot" at night and late afternoon.

12. Counselor
Position: Students shouldn't drive cars to school

Possible arguments: Statistics on students flunking school because of "interest" in supporting a car; statistics of those who work to support a car.

13. Horse Lover Student
Position: Everyone should ride horses to school

Possible arguments: Horses were here before the car; no pollution of the air; ecological contributions: "horses helped to found the West - we owe them the favor." No noise; possible "horse-pool" of riders.

14. Concerned Parent
Position: Do not close the parking lot

Possible arguments: The right to drive a car is guaranteed by the Constitution; "Don't tell my child what he can and cannot do"; "Basic rights to make my own decisions are violated."

The School Board - those of the pairs which did not give an oral report -- decide the decision. The decision must be justified by presenting facts taken from the oral arguments.

Pamphlets for this Unit:

Idaho's Five Step Program for Learning Bicycle Safety
Dept. of Law Enforcement Bos 34, Boise, Idaho

Factors Affecting Automotive Fuel Economy October, 1976
Office of Air and Waste Management, Washington, D.C. 20460

Tips for Energy Savers, Federal Energy Administration, August 1977

Some Things Are Worth Saving, Idaho Office of Energy

1978 Gas Mileage Guide, first edition, Sept. 1977
U.S. Environmental Protection Agency

Tomorrow's Cars, Energy Research and Development Administration

Tips for the Motorist: Don't be Fuelish, Federal Energy Administration
Washington, D.C. 20461

Transportation and the City, EDM-1031 U.S. Department of Energy

AUTO-OBIT

(Transpor-Mania Activity #2)

Time: One class period

Materials Needed: Newspaper obituary columns, paper, pencil, felt pens, tagboard, scissors

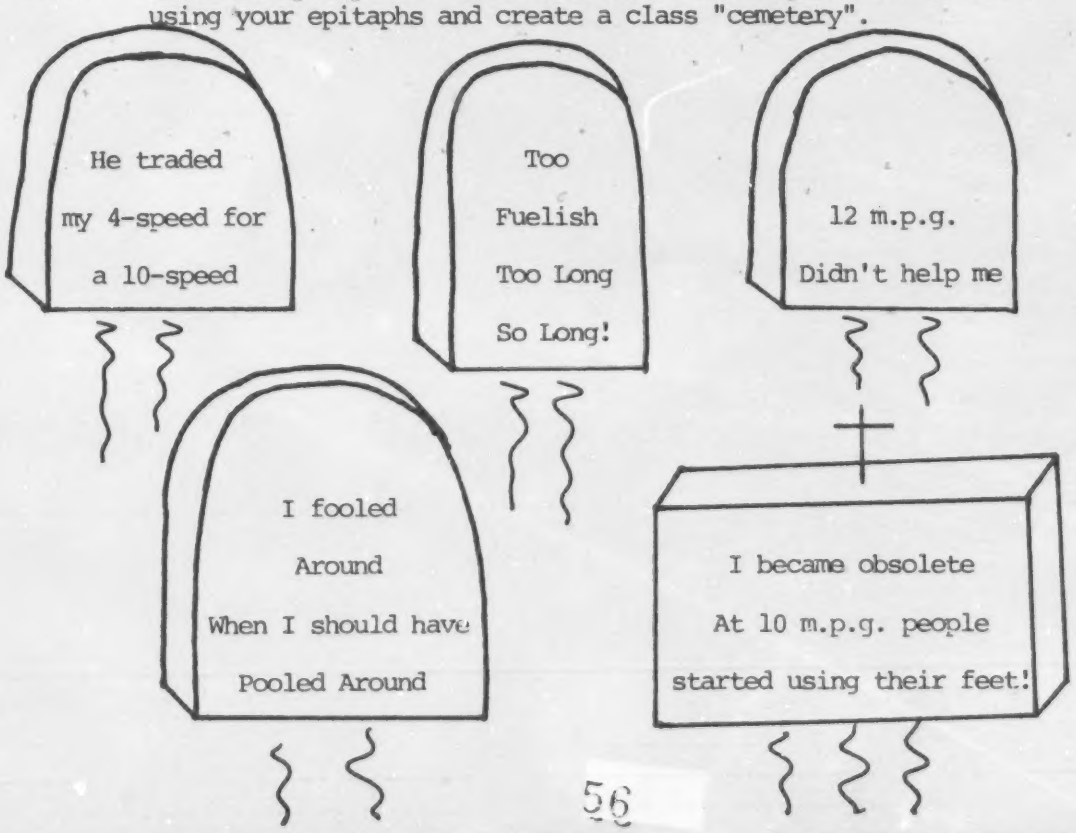
Procedure:

Part A - Write an obituary for a low-gas mileage automobile following the format used in the newspaper. The obituary should include:

- Date of "birth"
- Date of "death"
- Cause of "death"
- Achievements in "life"
- Surviving relatives
- Services to be held
- Final disposition of the "body"

(Transpor-Mania Activity #2)

Part B - Write an epitaph for an automobile. Make tagboard tombstones using your epitaphs and create a class "cemetery".



THE WAY IT WAS

(Transpor-Mania Activity #3)

Time: One class period

Materials needed: Paper and pencil

Procedure: Write a short story (or narrative) on the energy and transportation situation in Idaho.

Suggested Topics:

1. Car pools -- a great way to save energy and make friends.
2. Endangered vehicles I've known.
3. Why I became a car bum.
4. Why I switched from gas guzzler to diesel.
5. My love affair with _____ (name of car) and how it ended during the fuel shortage.
6. While biking through the park one day I met the cutest _____.
7. Memoirs of a deserted _____ (name of vehicle).
8. Views from an auto salvage yard.
9. The day we buried _____, that good ol' car.
10. The day we walked instead of driving.
11. The day I traded my _____ for a Moped (motorized bike, getting about 100 m.p.g.)
12. Views around Idaho from the cab of a truck.

A DAY IN THE LIFE OF _____

(Transpor-Mania Activity #4)

Time: One class period

Materials Needed: Paper and pencil

Procedure:

Students work singularly or in pairs. Choose a date and in diary format, write humorously of one-day incidents in the "life" of a recreational vehicle. Concentrate on the problems of poor gas mileage, size and noise.

FUELISH FEATURES

(Transpor-Mania Activity #5)

Time: One to three class periods

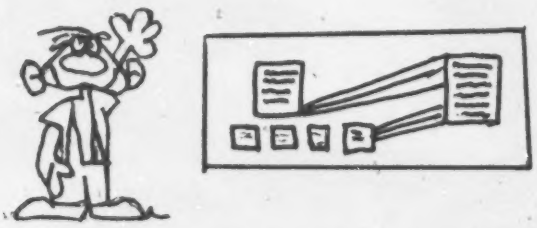
Materials Needed: Newspapers, recent and back issues, Art Card #3

Procedure:

Teacher will divide the class into teams for an "energy hunt". Students will search the various sections of the newspaper to find news-articles, cartoons, letters to the editor, editorials, advertisements, etc. which deal with energy-related subjects.

Follow-Up Activity:

Prepare a bulletin board display entitled "Fuelish Features"



LOOK IT UP

(Transpor-Mania Activity #6)

Time: One or two class periods

Materials Needed: Newspapers, magazines, paper, pencil

Procedure:

Students working in small groups will search for advertisements which deal with transportation and focus primarily on the automobile. The students will look for these items:

Gas mileage figures

Air conditioning

Type of transmission

Passenger space

Safety factors

Now examine what selling points the manufacturer is using to appeal to the consumer. Make a list of these things. Discuss the findings.

CONSUMER CHOICE

(Transpor-Mania Activity #7)

Time: One class period

Materials Needed: Copies of consumer guides from the library, paper, pencil

Procedure:

Assume that you will be purchasing a new car. Like many consumers you want to purchase an energy-efficient car that will give you the most value for your money. Research automobiles and write a summary of your findings.

AUTO-LYRICS

(Transpor-Mania Activity #8)

Time: One class period

Materials needed: Paper, pencil

Procedure:

Write lyrics involving car "love affairs", car "deaths" or energy-related subjects to fit a popular song tune or an "oldie" such as "Row, row, row your boat".

Sample: Gas, gas, gas your Ford
Fill-up at the pump
Easily, easily, easily, easily
Out your money goes

PICK A TRANSPORT

(Transpor-Mania Activity #9)

Time:

Materials: EPA Gas Mileage Guide, latest edition, brochures from vehicle manufacturers which tell about the other features of the vehicle (size, weight, length, passenger capacity).

Procedure:

Here are some typical Idaho families. Help them pick the car, truck, or van which would meet the needs of each family and would be the most energy efficient.

(a) The Jones family has 6 members: Mom, Dad, four teenagers. Mom drives to work and Dad takes the bus. The whole family likes to ski and camp.

(b) Joe and Sue Smith, a couple in their mid-twenties. Joe works five miles from home, Sue doesn't work and they have no children.

(c) Harry Wells, a bachelor, lives with his aged father who is confined to a wheelchair.

(d) Bill and Wilma Jones live on a ranch and need an energy efficient four wheel drive vehicle.

(e) The Thompsons' live on a farm twenty miles from town. They have two elementary age children, a son in high school and a daughter in Junior High.

Activities:

1. Make a list of the families and the vehicles that you recommend each buy. Be prepared to tell someone about your choice in each case.
2. Pretend you are a salesman and "sell" the vehicles to a classmate.
3. Prepare a brochure (with illustrations, comparison lists and diagrams) which attempts to sell one of the vehicles to one of the families.
4. Make a list of the important features one of the families is looking for; make a list of the various vehicles they could buy and compare the important features on a chart.

HOW FAST CAN YOU DRIVE?

(Transpor-Mania Activity #10)

Time: Approximately 4 hours class time

Materials: EPA Gas Mileage Guide, latest edition; graph paper, paper, pencils, Art Card #21

Porcedure:

Suppose the speed limit for each car were geared to the EPA rating of the car (that is how many miles the car gets to the gallon). Gas guzzlers would have to drive more slowly than energy efficient cars. Suppose there were three speed limit categories: 55 mph, 60 mph, and 65 mph. Make a list of the different cars you are familiar with and assign each to a speed limit category using the EPA booklet.

Make a survey of the kinds of cars owned by your classmates' families. Make a pie graph or a box graph showing what proportion of these cars would be in each category.

Make an oral presentation to your class showing the results of your survey and your graph.

WORD POWER

Goals and Objectives:

Students will work with basic language skills - spelling, vocabulary, word formation in poetry and dictionary and thesaurus content. The suggestions on the Word Power Activity cards can be used with the Basic Word List; new energy words should be added to this list as they come up in class.

Activities in this Section:

1. "Energy-Fed Similes"
   Type of Activity: Write similes
   Skills: Writing, word study

2. "Which Word Will Work?"
   Type of Activity: Aliteration writing
   Skills: Writing, word study

3. "Conservation Cinquains"
   Type of Activity: Writing cinquains
   Skills: Writing, word study, poetry

4. "Syno-Sense"
   Type of Activity: Work with synonyms
   Skills: Writing, word study, poetry, dictionary work

5. "Shape a Poem"
   Type of Activity: Prepare concrete poetry
   Skills: Writing, word study, poetry

6. "5-7-5"
   Type of Activity: Write a haiku
   Skills: Research, dictionary skills, writing

8. "Oil-Spell"
   Type of Activity: Practice correct spelling
   Skills: Spelling, word study

9. "The Puzzler"
   Type of Activity: Make word puzzles
   Skills: Writing, word usage

10. "Syllo-Sense"
    Type of Activity: Vocabulary and spelling
    Skills: Writing, word study

WORD POWER

BASIC WORD LIST

Additional energy words should be added to this list as they are mentioned in class.

acceleration
atom
blackout
coal
conservation
conserve
curtailment
ecology
economics
electrical energy
energy
environment
fission
fusion
fuel
gas
gasoline
geothermal
habitat
heat
heat pump
horsepower
hydroelectric
hydropower
insulation
joule
kilowatt
landfill
light
mechanical energy
megawatt
methane
natural gas
nonrenewable resources
nuclear
oil shale
oil spill
peaking
power
pollution
radiation
recycle
renewable resources
resources
solar
strip-mining
technology
temperature
thermodynamics
transmission
turbine
volt
watt
weatherstripping

ENERGY-FED SIMILES

(Word Power Activity #1)

Time: 1 class period

Materials: Paper, pencil, basic word list

Procedure:

A simile is a comparison of two unlike things that are compared by using "like" of "as". For example:

Pollution is like by brother's room:
grimy, smelly, and "garbagey"

A decible is as loud as the tardy bell
When you are running to get to your seat

Now make ten similes of your own. Use words from the unit's basic word list.

WHICH WORD WILL WORK?

(Word Power Activity #2)

Time: 1 class period

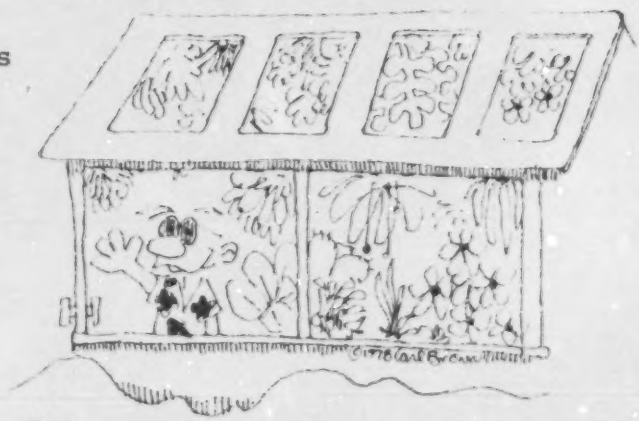
Materials: Paper and pencil

Procedure:

Pick at least three modifiers that begin with the same consonant which will describe an energy word. Write three lines in this manner:

Spraying, shiny sun-rays,
Happily heating hot-houses
Solar Energy

Use words from the basic word list



CONSERVATION CINQUAINS

(Word Power Activity #3)

Time: 1 class period

Materials: Paper and pencil, dictionary, thesaurus

Procedure:

Write a poem in the following manner:
line one: Pick a noun. Use an energy word
line two: Use two descriptive words
line three: Use three words that show action
line four: Use four words that make a statement giving your opinion
line five: Use a synonym or antonym

Recycle
Discarded, Rejected
Littered on Earth
It spoils the Landscape
Clean-up

SYNO-SENSE

(Word Power Activity #4)

Time: 1 class period

Materials: Paper and pencil, dictionary, thesaurus

Procedure:

Write three synonyms which describe an energy word. Then, write a second line which will rhyme. The two lines will make a poem. For Example:

AC's, DC's, amps and watts
These are energy, believe it or not.

Use words from the basic word list

SHAPE A POEM

(Word Power Activity #5)

Time: 1 class period

Materials: Paper, pencil and pen

Procedure:

Write a concrete poem so that the word symbolizes what it is. For example:

Use words from the basic word list, or other energy words.

---

5 - 7 - 5

(Word Power Activity #6)

Time: 1 class period

Materials: Paper, pencil

Procedure:

Write a haiku poem. Haiku deals with nature and is written in three lines. The first line has five syllables, the second line seven syllables, and the third line five syllables. For example:

Oil coming from earth
Powering machinery
Polluting the earth

Use words from the basic word list, or other energy words.

WORKING WORDS

(Word Power Activity #7)

Time: 2 class periods

Materials: Paper, pencil and dictionary

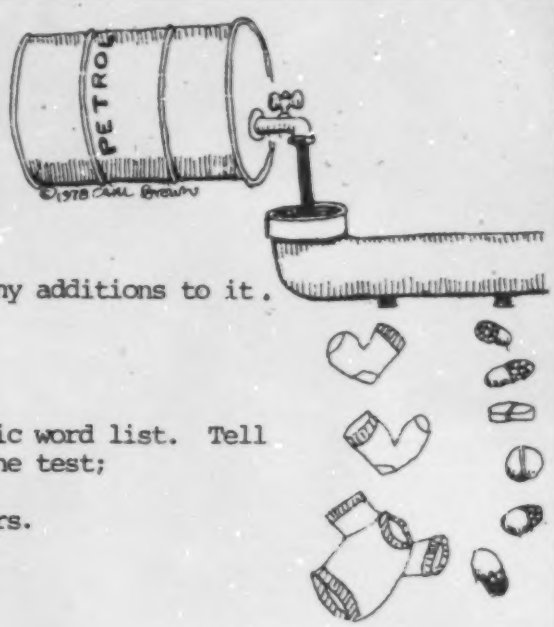
Procedure:

Use the dictionary to look up the words on the basic word list. Answer these questions:

1. Did you find any words not listed in the dictionary?
2. Did each word have an energy-related meaning?
3. Check the etymology and determine the origin of the word.
4. Can the word be used as more than one part of speech?
5. How many syllables does the word have?
6. Are there any variant spellings?
7. Does the word have a usage label?

OIL SPELL

(Word Power Activity #8)



Time: Varying

Materials: Copies of basic word list and any additions to it.

Procedure:

Learn how to spell the words on the basic word list. Tell your teacher when you are prepared to take the test;

or

Have an energy spelling bee with class members.

THE PUZZLER

(Word Power Activity #9)

Time: 1-2 class periods

Materials: Pencil, paper, basic word list

Procedure:

1. Use the basic word list to make one of the following word puzzles: crossword, acronyms, acrostics, word jumbles.
2. Make copies of the puzzle for class mates to work or develop an energy puzzle book for the classroom or school library.

SYLLO-SENSE

(Word Power Activity #10)

Time: 1 class period

Materials: Paper, pencil

Procedure:

Learn vocabulary and spelling by "elaborating" on energy words. If the first "energy" word is two syllables, then all words must be two syllables. For example:

Recycle

discard
throw out
take back
return
renew

ART CARDS

Goals and Objectives:

The purpose of this section is to provide the supplementary graphic arts instruction necessary to complete the task cards in the other units.

Art Card 1 - "Architectural Model"

Art Card 2 - "Make a Book Mark"

Art Card 3 - "Make a Bulletin Board"

Art Card 4 - "Carvings - Wood or Soap"

Art Card 5 - "Clay Characters"

Art Card 6 - "Make a Collage"

Art Card 7 - "Make a Diorama"

Art Card 8 - "Embroidery - Hangings"

Art Card 9 - "Make a Kite"

Art Card 10 - "Make a Map"

Art Card 11 - "Making a Mask"

Art Card 12 - "Make a Mobile"

Art Card 13 - "Make a Mosaic"

Art Card 14 - "Make a Mural"

Art Card 15 - "Make a Poster"

Art Card 16 - "Make a Scrap Book"

Art Card 17 - "Make a Shadow Box"

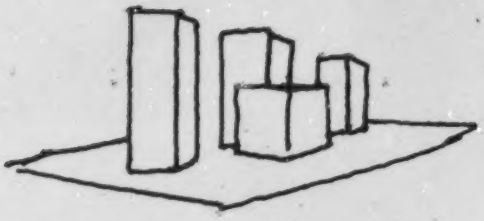
Art Card 18 - "Make a Slide Show"

Art Card 19 - "Stitchery"

Art Card 20 - "Make a Time Line"

Art Card 21 - "Make a Transparency"

Art Card 22 - "Making a Window Display"



ARCHITECTURAL MODEL

(Art Card Activity #1)

Time: This project will take about three hours to complete if done as a group project, and will be dependent on the complexity of the project also.

Materials: Cardboard cartons of various sizes, glue, scissors, foil plastic wrap, tempera paint, brushes, felt markers, tape, assorted colored butcher paper

Procedure:

1. Create a cardboard base and cover or paint in details such as curbing, grass, intersections, etc.
2. Select, small cartons (and modify in shape as desired) and cover with paint or colored butcher paper.
3. Cut out and apply pieces of fail and plastic wrap for windows, and other specific details on building models.
4. Refine further details by applying felt point markers.

MAKE A BOOK MARK

(Art Card Activity #2)

Time: Project should be completed within 2 hours working time.

Materials: Scraps of leather, heavy cloth, plastic, cardboard, scissors, glue, needle, thread, yarn, permanent marking pens.

Procedure:

1. Design shape and monogram at least six inches in length.
2. Cut out desired design and apply cardboard, leather background shapes.
3. Apply yarn - thread stitchery if desired, otherwise decorate with permanent markers. Decorations may include illustrative symbols as well as monogram.

MAKE A BULLETIN BOARD

(Art Card Activity #3)

Time: Project should take about one hour to complete if done as a team effort, and dependent on size and complexity of display.

Materials: Colored butcher paper, crepe paper, colored yarns, strings, scissors, stapler, glue, straight pins.

Procedure:

1. Collect pertinent materials to be displayed.
2. Arrange and glue down to background butcher paper.
3. Cut out block letters from contrasting butcher paper and glue or staple to bulletin.
4. Place bulletin in center of designated display area.
5. Staple in place and add colored yarns or string to "tie" displayed area items together as to read-ability amphasis and continuity.

Note: A hanging four sided display may be suspended from the ceiling using a cardboard carton and following the directions given above.

WOOD OR SOAP CARVINGS

(Art Card Activity #4)

Time: This project should take from four to eighteen hours depending on size and complexity of subject.

Materials: Soft straight grained wood, sharp knife for carving, files, rasps, sand paper, large cakes of ivory soap, blocks of paraffin, plaster of paris, glue, shoe polish, rags.

Procedure:

1. Sketch design on carving surface on top side and ends.
2. Carve away excess material to rough outline of design.
3. Scrape, file, and sand to desired roundness and smoothness.
4. Rub and buff sculpture with shoe polish and soft smooth rags.

CLAY CHARACTERS

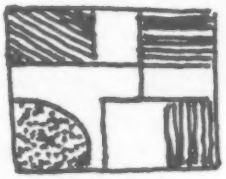
(Art Card Activity #5)

Time: This project should be completed from one to five hours depending on the complexity of subject matter.

Materials: Oil based clay for reusable sculpture experiments, water based clay for both experimental use and permanent projects (when bisque fired), flat sticks for modeling tools, sponges for smoothing and cleanup, plastic sheeting for storage and slow drying of water based clay, water containers for use while working with clay and for cleanup.

Procedure:

1. Experiment with clay to discover best way to make the desired subject replica.
2. Try rolling components and attaching together.
3. Try pinching out extremities of subject from a lump of clay.
4. Carve and sandpaper down flat stick for desired shapes of modeling tools then carve and smooth in fine details of sculptured clay characters.



MAKE A COLLAGE

(Art Card Activity #6)

Time: This project may take one to five hours to complete, depending on size and complexity of the design, theme.

Materials: Scraps of wide variety of materials having different textures, glue, rubber cement, cardboard, string, scissors.

Procedure:

1. Select at least five different textures and cut in shapes as desired for individual designs, and theme.
2. Assemble on a piece of cardboard.
3. Glue in place, (some background places may be left blank and/or top layer of cardboard peeled away to show underlying corrugation, if desired.

MAKE A DIORAMA

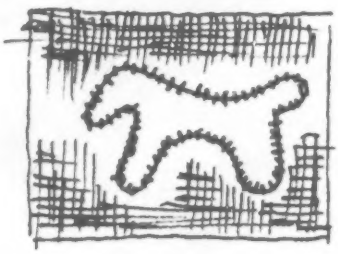
(Art Card Activity #7)

Time: This project will take from four to twelve hours to complete -- depending on how many persons work on the same project, and the complexity of the project.

Materials: Cardboard, glue, scissors, colored papers (construction, tissue, butcher) pipe cleaners, twigs and branches, bark, assorted scrap materials.

Procedure:

1. Design and cover with colored butcher paper a cut-out cardboard carton large enough to accommodate the diorama
2. Fabricate and glue in place subject matter on diorama (in some cases small plastic models may be used to show specific concepts, but is not encouraged).
3. Twigs and small branches may be utilized for trees and brush in realistic settings. Corrugated cardboard for log structures, etc.
4. Use ingenuity in reproducing natural forms on a miniaturized scale.



EMBROIDERY-HANGINGS

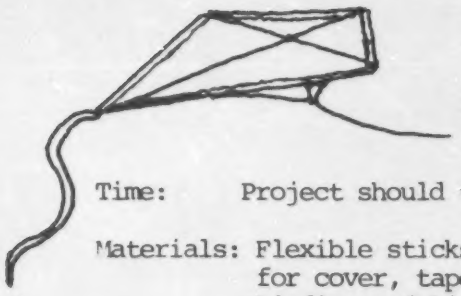
(Art Card Activity #8)

Time: This project may be completed in about four hours depending on size and complexity of the design.

Materials: Burlap, felt, light yarn, needles, scissors, garment leather scraps, wood frames (if desired).

Procedure:

1. Design and cut out figures to be used on burlap background.
2. Stretch and staple burlap to wood frame if desired.
3. "Whip stitch" cut out symbols to burlap.
4. Soft leather may be used in place of, or with felt for subject symbols giving added interest and contrast to designs.



MAKE A KITE

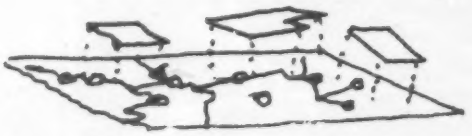
(Art Card Activity #9)

Time: Project should take about one or one and a half hours to complete.

Materials: Flexible sticks for cross-pieces, heavy paper or plastic sheet for cover, tape of contact cement for fabricating, twine for binding and kite string, scissors for cutting and fitting cover fabric.

Procedure:

1. Tie crossmembers so as to form a cross with the longer member being the vertical member.
2. Run string to the ends of cross members to stabilize the arms from shifting, and to make a flexible frame to fasten the cover fabric.
3. Lay tied frame on fabric and cut one inch larger than the frame -- the extra inch of fabric is to be folded over the string portion of the frame and glued or taped to hold fabric cover to the frame.
4. Make a triple lead-tie with string from the cross arm center and the top and bottom ends of the vertical cross member -- attach to ball of kite string.
5. Attach a six foot ribbon of fabric for stabilizing tail.



MAKE A MAP

(Art Card Activity #10)

Time: This project should take about two hours to complete allowing for drying time before total finishing.

Materials: Commercially prepared road maps, colored tissue paper, water based felt pens or crayons, glue, scissors, cardboard, spray varnish or lacquer.

Procedure:

1. Glue map to cardboard.
2. Cut out selected sizes and colors of tissue paper and glue to desired areas on map.
3. Let pasted areas dry and coat total area with spray varnish or lacquer.

MAKING A MASK

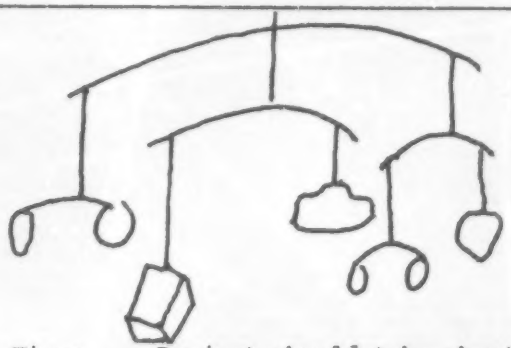
(Art Card Activity #11)

Time: This project should take from 3 to 10 hours depending on drying time and complexity of mask.

Materials: Cardboard for base of mask, torn newspapers for laminated covering of mask base, tempera paint, brushes, sandpaper, wheat or library paste, masking tape, hole punch, odds and ends of yarn, string and raffia.

Procedure:

1. Cut and tape together features of mask from cardboard.
2. Tear newspapers into one inch by three inch strips. Moisten with paste or glue and put on about three layers all over mask surface in alternate directions.
3. Let mask dry and sandpaper smooth. Paint and highlight features with tempera paint.
4. Punch holes and fit in yarn and string for hair like features where desired or needed.



MAKE A MOBILE

(Art Card Activity #12)

Time: Project should take about 1½ hours to complete. This is a good group project where teams work together to cover a given subject with a variety of viewpoints.

Materials: Clothes hanger wire for cross arms, monofilament fish line for suspensions, side-cutter pliers, scissors, tape, glue, swivels, poster board, scraps of clear plastic, drill or hole punch, individually selected subject matter, and/or created symbols.

Procedure:

1. Cut and straighten wire cross arms and suspend with fish line and swivels.
2. Attach subject matter to cross arms with fish line and balance so that all parts swing freely and not tangled.
3. Suspend from ceiling or hanging wire stretched near ceiling of room.

MAKE A MOSAIC

(Art Card Activity #13)

Time: This project will take from 2 to 8 hours depending on the size and complexity of the design.

Materials: Cardboard, gipsum board, thin plywood, or masonite, (any of these that is most readily available), varied materials in small pieces ranging from bits of paper, glass, colored eggshell, coffee grounds, colored sand; dried beans, corn or seeds; tile, leather bright metals, rocks, plastics and anything else discovered and/or available, glue, string, and scraps of yarn.

Procedure:

1. Draw out design on background board.
2. Select a variety of mosaic materials appropriate to subject and design and giving strong contrast to each area of the design.
3. Spread glue over one area at a time and place desired mosaic material while glue is still moist - in the case of sand or coffee grounds, shake off excess after sprinkling initial area.
4. Accent separate areas with line of string or colored yarns.
5. After all areas are dry and free of any sluff or fallout, spray total surface with clear varnish or shellac.

MAKE A MURAL

(Art Card Activity #14)

Time: This project may be a joint effort by the whole class and should take about one week to complete.

Materials: Background with a prepared painting surface (cardboard, canvas, butcher paper, burlap, masonite, or plywood., brushes, paint, pencils (soft), erasers, containers for paint mixing and clean up.

Procedure:

1. Make a series of small sketches and/or designs portraying central theme of the mural; refer to pictures of murals as a research project.
2. Make a small colored rendering of the mural to work out color scheme.
3. Transfer desired outline-pattern-design to mural surface and paint.

MAKE A POSTER

(Art Card Activity #15)

Time: Project should take from one to four hours. Should be designed in class and completed independently out of class where needed.

Materials: Poster board, or paper-covered cardboard, rulers for measuring and spacing lettering, pencil, eraser, and lettering instruments (pens, sticks, brushes), ink, or tempera paints, or water colors.

Procedure:

1. Make a rough draft of what is needed to be said in the poster - be brief and emphatic; does the message need to be illustrated? If so, how? A drawing, a photo-clipping, a cut out?
2. Lay out guide lines for lettering, use ruler for spacing, and lightly sketch on poster.
3. Select appropriate style of lettering and print on preset guidelines. (cut out letters may be used as well)
4. Place desired illustrations after lettering is complete. Make sure all work is dry and stable, then erase all pencil marks and smudges.

MAKE A SCRAP BOOK

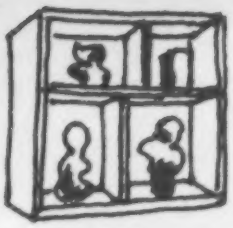
(Art Card Activity #16)

Time: Since this is usually an on-going project no specific time limit should be set excepting a beginning time at the first of the year and a completion date near the end of the involvement period.

Materials: Loose leaf notebooks, construction paper, rug and wallpaper sample books (if available), glue, scissors, ticket punch (round), stapler, tape, key-posts.

Procedure:

1. Select and fit dark construction paper to desired size of scrap book cover.
2. Punch holes to fit fasteners of book.
3. Paste in subject matter on construction paper pages with appropriate labels and descriptions.
4. Tape and staple pieces where and when necessary.



MAKE A SHADOW BOX

(Art Card Activity #17)

Time: Project should take about two hours to complete depending upon amount of tools and work space available. Should be designed in class and completed independently at home or outside of class time.

Materials: Plywood for backs on boxes, 1/4" x 2" strips of wood for walls and compartments of boxes, glue, nails, saw, hammer, square, clear plastic or glass for front cover.

Procedure:

1. Select objects to be put in shadow box and make back and sides of box to fit needs.
2. Glue all pieces and nail together.
3. Sand smooth; finish with desired color of varnish or paint- surfacing backs of compartments with contrasting material such as felt, flocking, or foil is optional.
4. Place selected objects in appropriate compartments - gluing in place where desired - and seal with glass and contact cement if desired.
5. Place hanging mechanism or screw eyes in back for hanging on wall.

MAKE A SLIDE SHOW

(Art Card Activity #18)

Time: Project should take about two weeks of intermittent activity. Discussion and editing should take place in the classroom. The remainder should take up time independent of school time.

Materials: Camera, slide making film, slide projector and carousal, cassett tape recorder-player, screen or light projection surface, lively, active visual awareness of subject matter.

Procedure:

1. Discover and discuss subject matter pertinent to theme or concept.
2. Take multiple snapshots of subject matter.
3. Have film developed and slides made.
4. View slides in desired sequence and tape record commentary.
5. Write a brief outline of sequence of film and commentary for future reference and cataloging purposes.

STITCHERY

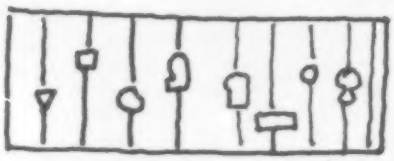
(Art Card Activity #19)

Time: Project should take about a week to ten days - one to three hours per day - and should be started in class, and completed independently out of class.

Materials: Frame to stretch burlap over, burlap (any color) for base fabric, yarn and large eyed needle to sew through burlap, stapler, scissors for cutting and fitting burlap to frame, marker to create design on burlap.

Procedure:

1. Stretch and fasten burlap to wood frame with staples.
2. Make pattern/design outlines with marker.
3. Sew with yarn filling in designed areas with varied lengths of stitches most appropriate to the desired texture of the design - change colors of yarn and direction of stitches as desired for contrast and emphasis.
4. Continue above procedures until subject is completely covered filling in background spaces is optional.



MAKE A TIME LINE

(Art Card Activity #20)

Time: This project should be completed in about two hours if not interrupted in sequence.

Materials: Butcher paper, yard stick, marking pens, scissors, glue, assorted colors of construction or tissue paper, pencil, eraser.

Procedure:

1. Measure and mark proportioned sequence of verticle time lines with pencil.
2. Cut out appropriate symbols and paste on related time lines.
3. Mark in time lines, dates, and details on symbols with marking pens.

MAKE A TRANSPARENCY

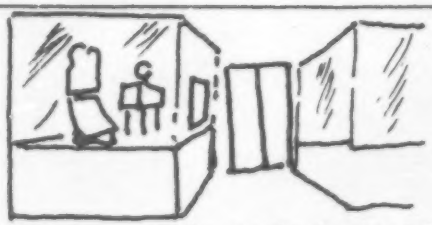
(Art Card Activity #21)

Time: Since projects of this type are usually on-going in scope and sequence, each activity shouldn't occupy much more than 2 hours.

Materials: Poster board, clear plastic film, clear acrylic gloss medium, magazines printed on clay finish paper, permanent ink fine point felt markers, scissors, cotton tipped swabs, tooth picks, clear cellulose tape.

Procedures:

1. Cut desired sizes of cardboard frames and cover with plastic film (you may draw directly on these with fine point markers).
2. To make slide size transparencies use clear slide film and design with felt markers, cotton dabbers, or toothpicks for fine lines, using permanent inks or leather dyes.
3. To lift prints from clay surfaced magazine paper - coat selected subjects with three or four coats of clear acrylic gloss medium - let dry thoroughly, then submerge in a pan of lukewarm water, soaking until paper peels away easily, leaving the printing in, attach to the gloss medium film, thereby making larger transparencies for use on an overhead projector.
4. Overlays may be made by drawing with markers on successive layers of clear film with contrasting colors.



MAKING A WINDOW DISPLAY

(Art Card Activity #22)

Time: This project may take from three to seven hours depending on how many people are involved, the size and complexity of the display. It is best to keep a display simple and straight forward in its message - be brief and to the point.

Materials: Large cardboard cartons, utility knives, scissors, colored butcher paper, string, glue, tape, broad point felt markers.

Procedure:

1. Cut and refabricate large cartons to desired size and shape (easels, tables, cubes, triangles, etc.,)
2. Cover with bright colored butcher paper, and glue, tape or staple illustrative subjects to display units.
3. Letter captions and descriptions on pieces of contrasting butcher paper on display covering and tape or glue into place adjacent to illustrative material.
4. Place in display window so as to give best impact of message the display is intended to convey.

PICTURE WINDOWS:

Materials: Black butcher paper, or construction paper, assorted colored tissue paper, scissors, glue, tape.

Procedure: 1. Design and cut out of black background paper silhouettes of subject material.